Central Valley Regional Water Quality Control Board
22/23/24 September 2010 Board Meeting

Response to Comments
for the
City of Auburn
Wastewater Treatment Plant
Tentative Waste Discharge Requirements

The following are Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (National Pollutant Discharge Elimination System or NPDES Permit renewal), the tentative Alternative No. 1 (Applicability of Aluminum Criteria), the tentative Alternative No. 2 (Chloroform Effluent Limitation), and the tentative Cease and Desist Order (CDO) for the City of Auburn (hereinafter Discharger), Wastewater Treatment Plant (hereinafter Facility). Public comments regarding the proposed NPDES Permit were required to be submitted to the Central Valley Water Board by 23 August 2010 in order to receive full consideration.

The Central Valley Water Board received comments regarding the proposed NPDES Permit renewal by the due date from the following interested parties:

- Discharger;
- Central Valley Clean Water Association (CVCWA);
- California Sportfishing Protection Alliance (CSPA); and
- Save Auburn Ravine Salmon and Steelhead (SARSAS).

The submitted comments were accepted into the record, and are summarized below, followed by Central Valley Water Board staff responses. Comments received from CSPA and SARSAS are identical; therefore, Central Valley Water Board staff has consolidated their comments and is providing one response.

CITY OF AUBURN (DISCHARGER) COMMENTS

Discharger Comment No. 1. Effluent Limitations for Aluminum

The Discharger comments that the effluent limitation for aluminum in Alternative No. 1 (Effluent Limitations for Aluminum) is fully protective of public health and the environment, and is more fiscally responsible than the other alternatives. The Discharger comments that the site-specific toxicity information submitted to the Central Valley Water Board on 12 July 2010 indicates that the U.S. Environmental Protection Agency (USEPA) chronic criterion for aluminum is not appropriate for this discharge.

RESPONSE: Central Valley Water Board staff acknowledges the Discharger's support of Alternative No. 1 (Effluent Limitations for Aluminum), which proposes effluent limitations for aluminum based on the California Department of Public Health (DPH) Secondary Maximum Contaminant Level (MCL) of 200 µg/L, as opposed to the tentative NPDES Permit, which proposes effluent limitations for aluminum based on USEPA's National Ambient Water Quality Criteria (NAWQC) chronic criterion of

87 µg/L for the protection of aquatic life. At the May 2010 Central Valley Water Board meeting, the Board continued the item for the Placer County Department of Facility Services, Placer County Sewer Maintenance District No. 1 Wastewater Treatment Plant (Placer County), allowing Placer County and other interested parties to submit compelling evidence regarding the applicability of the appropriate criteria for the establishment of final aluminum effluent limitations for their discharge. Information supporting Alternative No. 1 includes a 14 June 2010 letter submitted by Placer County. Although the information submitted by Placer County pertains specifically to their discharge, the issue of whether applicability of the chronic criterion should be based on upstream or downstream receiving water conditions is an issue that affects determinations for other discharges to similar types of receiving waters, including the discharge from this Facility. At the September 2010 meeting, the Central Valley Water Board will be considering both the proposed NPDES Permit and Alternative No. 1 (Effluent Limitations for Aluminum). The proposed effluent limitation based on the Secondary MCL has been presented as a separate tentative option for the Central Valley Water Board to make a determination whether the chronic criterion of 87 µg/L should be applied based on upstream or downstream hardness and pH conditions.

Central Valley Water Board staff does not concur that enough site-specific information exists to conclude that the chronic criterion for aluminum of 87 µg/L is not applicable to the receiving water. The chronic criterion of 87 µg/L is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as $CaCO_3$). Similar to the pH of the facility influent, the upstream receiving water pH is at times low, with available data indicating that it ranges from 6.3 – 7.4. The hardness of the upstream receiving water ranges from 10 mg/L to 110 mg/L. The minimum observed effluent hardness was 70 mg/L. The high hardness of the effluent is due to the addition of lime to the secondary treatment process via a new automatic feed system to enhance denitrification. Although the effluent hardness may increase the downstream hardness, future modifications to the treatment process may result in changes in lime use. These changes may reduce the effluent hardness and, consequently, the downstream receiving water hardness to levels that would support the use of the NAWQC chronic criterion for aluminum.

The Central Valley Water Board generally discourages the addition of chemicals when unnecessary for treatment, because it increases the potential for salinity and other constituents to be discharged to the receiving water. Therefore, until site-specific testing is approved by Central Valley Water Boards staff confirming that it is appropriate to incorporate effluent hardness in this evaluation, it is inappropriate to base the applicability of the aluminum chronic criterion for the receiving water, on the characteristics of the effluent.

The low pH values and low hardness observed during the months of June through August (typically critical low flow time periods) in the receiving water make it questionable if the receiving water conditions year-round are supportive of removing the applicability of the NAWQC chronic criterion for aluminum. Additionally, since at

times the effluent has a much higher hardness than the receiving water, and there is no receiving water aluminum data, it remains unknown if the "worse-case" conditions occur during critical low flow of the receiving water. Additional site-specific information, including information equivalent to a water effect ratio (WER) study and additional receiving water data, is necessary to confirm that the conditions in the receiving water will not result in toxicity if the 87 ug/L chronic criterion is not applied. In certain situations, the Central Valley Water Board may consider information from the *Arid West Water Quality Research Project - Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report* (May 2006) when determining the applicability of the chronic criterion to a receiving water. However, the 2006 Arid West Study alone does not constitute a sufficient basis to justify discarding the 87 ug/L chronic criterion for water bodies such as Auburn Ravine, where ambient hardness can be very similar to the conditions used to develop the chronic criterion. While Board staff acknowledge that the Central Valley Water Board has not always required additional WER study information to justify departures from the criterion, in cases where additional information was not required, receiving water hardness levels were significantly higher than those used to develop the chronic criterion.

The Discharger submitted a *City of Auburn Wastewater Treatment Plant Technical Memorandum, Aluminum Water-Effects Ratio Study Initial Results* (ECO:LOGIC) dated 12 July 2010 which indicates a preliminary WER conclusion of >19.3. Although the initial testing indicates that applying this ratio to the 87 µg/L criterion (19.3 x 87 µg/L = 1,679 µg/L) would result in a chronic criterion greater than the applicable Secondary MCL of 200 µg/L or the acute criterion of 750 µg/L, Board staff would need additional sampling events, and possibly confirmation testing using a secondary species, in accordance with USEPA's *Interim Guidance on Determination and Use of Water-Effect Ratios for Metals* (February 1994), to justify the removal of the chronic criterion. If not a full WER study, at minimum sufficient testing that indicates that this receiving water, with hardness as low as 10 mg/L, is still protected by implementation of the 200 µg/L MCL and 750 µg/L acute criteria. Central Valley Water Board staff does not believe that sufficient site-specific information is available at this time to warrant discontinuation of the use of the chronic criterion for aluminum.

The Discharger contends that Alternative No. 1 (Effluent Limitations for Aluminum) is consistent with other permits recently adopted by the Central Valley Water Board, including permits for the City of Manteca, the City of Modesto, and the City of Yuba City, regarding aluminum criteria. However, Board staff does not believe that the Auburn Ravine, a small creek, is comparable to the receiving waters that the above-referenced facilities discharge to, which include the San Joaquin River and the Feather River. Additionally, in the permits cited by the Discharger, the Dischargers conducted site-specific WER studies to support the conclusion that the 87 µg/L criterion was not applicable. The Discharger has not provided information indicating that the hardness, pH and temperature conditions, and other flow and other stream conditions of these larger rivers are comparable to the conditions of the smaller Auburn Ravine.

Upon the availability of sufficient information, the permit may be reopened to adjust effluent limitations for aluminum, as necessary.

The Central Valley Water Board staff recommendation is also consistent with a 24 June 2010 letter from USEPA Region 9 regarding this aluminum issue, which recommends the conservative approach of retaining the existing limitation based on the chronic criterion in the absence of adequate site-specific information supporting discontinuation of its use. An antidegradation analysis, supporting the additional degradation that will be allowed to occur if the Central Valley Water Board is to backslide from the existing effluent limitation, would also be required if the limit is to be relaxed. In 2005, the Regional Board considered the degradation associated with effluent limitations based on the 87 µg/L criteria. An analysis of aluminum receiving water data together with site-specific information for aluminum would allow the Central Valley Water Board to conduct an appropriate antidegradation analysis, which could support the removal of the 87 µg/l final effluent limitation. The Discharger would also have to demonstrate that BPTC is implemented at a level that would meet the requirements of the antidegradation policies.

The existing final effluent limitations for aluminum went into effect in 2005. Because CDOs R5-2005-0031 and R5-2008-0010 provided the Discharger with 5 years to comply with effluent limitations for aluminum, the exception from mandatory minimum penalties provided by California Water Code (CWC) section 13385(j)(3) can not be utilized for these parameters.

Discharger Comment No. 2. Ultraviolet Light (UV) Dose Monitoring Clarification

The Discharger comments that the UV disinfection system operating specifications in section VI.C.4.d of the proposed NPDES Permit should be revised as follows to be consistent with the UV disinfection system approvals from DPH:

"***Ultraviolet (UV) Disinfection System Operating Specifications.*** *The Discharger shall notify the Regional Water Board at least 30 days prior to start-up of the UV disinfection system. Once in operation, the Discharger shall operate the UV disinfection system to provide a minimum UV dose per ~~bank~~ channel of 100 millijoules per square centimeter (mJ/cm^2) at peak daily flow, unless otherwise approved by DPH, and shall maintain an adequate dose for disinfection while discharging to Auburn Ravine, unless otherwise approved by DPH.*"

RESPONSE: Central Valley Water Board staff concurs and has made the suggested revision.

Discharger Comment No. 3. Effluent Limitations for Chloroform

The Discharger comments that Option No. 2 in Alternative No. 2 (Chloroform Effluent Limitations) is both protective and consistent with the reduced potential for the presence

of trihalomethanes in the effluent as a result of the replacement of the chlorine disinfection system with a UV disinfection system. The Discharger will be able to comply with the proposed 1.1 ug/L chloroform by early 2011.

RESPONSE: Chloroform is a California Toxics Rule (CTR) priority pollutant; however, no CTR criteria have been promulgated. Central Valley Water Board staff acknowledges the Discharger's support of Option No. 2 in Alternative No. 2 (Chloroform Effluent Limitations), which applies the Primary MCL for total trihalomethanes (sum of bromoform, bromodichloromethane, chloroform and dibromochloromethane) of 80 µg/L and results in a determination of no reasonable potential to cause or contribute to an exceedance of water quality objectives for chloroform or total trihalomethanes. Option No. 1 applies the CalEPA Cancer Potency Factor as a Drinking Water Level of 1.1 µg/L and the California Office of Environmental Health Hazard Assessment (OEHHA) Public Health Goal (PHG) of 1.1 µg/L (tentatively 1 µg/L), as implemented in the existing NPDES Permit (Order R5-2005-0030) with a resulting final monthly effluent limitation of 1.1 µg/L. At the September 2010 meeting, the Central Valley Water Board will be considering both chloroform criteria to determine which is appropriate to evaluate reasonable potential to cause or contribute to exceedances of water quality objectives and establish effluent limitations for chloroform.

If Option No. 1 is adopted, which continues the existing 1.1 µg/L monthly effluent limitation for chloroform, the proposed CDO, which is consistent with the existing CDO, includes a compliance date of March 2011 for the final chloroform effluent limitation. The Discharger is on schedule with completing its proposed UV disinfection system that is expected to produce effluent that complies with the limitation.

Discharger Comment No. 4. In-stream Flow Monitoring

The Discharger requests that in-stream flow monitoring requirement be included as part of the Monitoring and Reporting Program (Attachment E) of the proposed NPDES Permit to collect background flow data to understand the effluent's impact, if any, on the receiving water.

RESPONSE: Central Valley Water Board staff concurs that flow monitoring will continue to provide useful information on the discharge, and has included upstream receiving water flow monitoring requirements in the Monitoring and Reporting Program (Attachment E) of the proposed NPDES Permit.

Discharger Comment No. 5. Averaging Period for pH

The Discharger requests an annual averaging period for the receiving water limitation for pH change.

RESPONSE: Central Valley Water Board staff does not concur. Order R5-2005-0030 established a receiving water limitation for pH specifying that discharges from the Facility shall not cause the ambient pH to change by more than 0.5 units based on the water quality objective for pH in the *Water Quality Control Plan, Fourth Edition (Revised September 2009), for the Sacramento and San Joaquin River Basins* (Basin Plan), and allowed a 1-month averaging period for calculating pH change. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, which amended the Basin Plan to delete the portion of the pH water quality objective that limits the change in pH to 0.5 units and allows for averaging periods. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and USEPA. Consistent with the revised water quality objective in the Basin Plan, the proposed NPDES Permit does not require a receiving water limitation for pH change; therefore, an averaging period is not necessary.

Discharger Comment No. 6. Averaging Period for Turbidity

The Discharger requests an annual averaging period for the receiving water limitation for turbidity.

RESPONSE: Central Valley Water Board staff does not concur. Order R5-2005-0030 established a receiving water limitation for turbidity specifying that discharges from the Facility shall not cause the turbidity to increase more than 1 NTU where natural turbidity is between 0 and 5 NTU based on the water quality objective for turbidity in the Basin Plan. The Central Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to limit turbidity to 2 NTU when the natural turbidity is less than 1 NTU. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and USEPA. Consistent with the revised water quality objective in the Basin Plan, the proposed NPDES Permit limits turbidity to 2 NTU when the natural turbidity is less than 1 NTU. Based on the changes to the Basin Plan water quality objectives, Central Valley Water Board staff does not believe that it is appropriate to apply a 1 year averaging period to the receiving water limitation for turbidity where natural turbidity is low.

Discharger Comment No. 7. Solar Photo Voltaic System

The Discharger requests that the facility description be updated to acknowledge construction of a solar photo voltaic system within Pond 3, which will provide a majority of the power needed to operate the Facility.

RESPONSE: Central Valley Water Board staff concurs that the facility description should acknowledge the new power source, and has modified the facility description and planned changes to address the solar photo voltaic system in the proposed NPDES Permit accordingly.

CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA) COMMENTS

CVCWA Comment No. 1. Effluent Limitations for Aluminum

CVCWA requests that the Central Valley Water Board adopt Alternative No. 1 (Effluent Limitations for Aluminum). CVCWA states that the downstream receiving water conditions, after mixing with the effluent, supports that the chronic criterion is not applicable to the receiving water. CVCWA also references the Water Quality Research Project's report titled *Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report*, which supports use of a less stringent chronic criterion for aluminum.

RESPONSE: See response to Discharger Comment No. 1.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) AND SAVE AUBURN RAVINE SALMON AND STEELHEAD (SARSAS) COMMENTS

CSPA and SARSAS Comment No. 1. Effluent Limitations for Aluminum

CSPA and SARSAS comment that if Alternative No. 1 (Effluent Limitations for Aluminum) is adopted, the proposed NPDES Permit would fail to contain an effluent limitation for aluminum in accordance with 40 Code of Federal Regulations part 122.44, USEPA's interpretation of the regulation, and CWC section 13377. CSPA and SARSAS comment that the proposed effluent limitation for aluminum is improperly regulated as an annual average and is contrary to 40 Code of Federal Regulations part 122.45(d)(2) and common sense.

RESPONSE: See response to Discharger Comment No. 1 for a discussion of the proposed alternatives for effluent limitations for aluminum.

Central Valley does not concur that the proposed effluent limitation for aluminum in Alternative No. 1 (Effluent Limitations for Aluminum) is improperly regulated as an annual average. The effluent limitation for aluminum in Alternative No. 1 (Effluent Limitations for Aluminum) is based on the Secondary MCL; therefore, an annual average effluent limitation has been included. Secondary MCLs are drinking water standards contained in California Code of Regulations, title 22 ("Title 22"). For Secondary MCLs, Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. Since water that meets these requirements on an annual average basis is suitable for drinking, it is impracticable to calculate average weekly and average monthly effluent limitations because such limits would be more stringent than necessary to protect the MUN beneficial use. Central Valley Water Board staff has determined that an averaging period similar to what is used by DPH for those parameters regulated by Secondary MCLs is appropriate, and that using shorter averaging periods is impracticable because it sets more stringent limits than necessary.

The maximum aluminum effluent concentration is 720 ug/L, which does not exceed the applicable aquatic life criteria of 750 ug/L. Since there being no reasonable potential for causing or contributing to an exceedance of aquatic life criteria, implementing averaging periods applicable to aquatic life criteria is not appropriate. The Discharger's current maximum average annual concentration is 232 ug/L. The Discharger must continue to reduce its aluminum concentration to comply with the proposed 200 ug/L annual average; therefore, the effluent aluminum concentrations will also be reduced even further.

CSPA and SARSAS Comment No. 2. Secondary Treatment Requirements

CSPA and SARSAS comment that the Discharger fails to provide a minimum of secondary treatment, as required by 40 Code of Federal Regulations part 133, and allows for bypass of treatment processes contrary to 40 Code of Federal Regulations part 122.41(m)(1).

RESPONSE: Central Valley Water Board concurs that, as written, the tentative NPDES Permit acknowledges that a bypass of the secondary treatment system could occur under certain wet weather conditions. During extreme wet weather events when all of the equalization ponds are full, the Facility has the ability to direct combined storm water and wastewater flows in excess of the hydraulic capacity of the secondary process of about 3 MGD through the pond system, combine them with flows from the secondary clarifiers, and direct them to the tertiary filters and disinfection facilities. However, the Fact Sheet (Attachment F) has been revised to clarify that although the Facility has the ability to bypass the secondary treatment system, the prohibition at section III.B of the proposed NPDES Permit prohibits the bypass or overflow of wastes to surface waters, except as allowed by federal Standard Provisions I.G. and I.H (Attachment D).,

Violations of this prohibition are subject to enforcement actions by the Central Valley Water Board. However, based on the information presented above, Central Valley Water Board staff does not believe that it is necessary to include a time schedule in an enforcement order to comply with Prohibition III.B of the proposed NPDES Permit.

CSPA and SARSAS Comment No. 3. Mass-based Effluent Limitations

CSPA and SARSAS comment that the proposed NPDES Permit fails to contain mass-based effluent limitations as required by 40 Code of Federal Regulations part 122.45(b).

RESPONSE: Central Valley Water Board staff does not concur. 40 Code of Federal Regulations part 122.25(f) states the following:

"Mass limitations. (1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass except:

(i) For pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass;

(ii) When applicable standards and limitations are expressed in terms of other units of measurement; or

(iii) If in establishing permit limitations on a case-by-case basis under §125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.

(2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations."

40 Code of Federal Regulations part 122.25(f)(1)(ii) states that mass limitations are not required when applicable standards are expressed in terms of other units of measurement. The numerical effluent limitations for chlorine, diazinon, beta-endosulfan, chlorodibromomethane, dichlorobromomethane, endrin aldehyde, heptachlor, lead, aluminum, manganese, and nitrate in the proposed NPDES Permit are based on water quality standards and objectives. These are expressed in terms of concentration. Pursuant to 40 Code of Federal Regulations part 122.25(f)(1)(ii), expressing the effluent limitations in terms of concentration is in accordance with federal regulations.

Mass limitations for oxygen demanding substances, bioaccumulative substances, and constituents with an associated 303(d) listing are included in the proposed NPDES Permit. The proposed NPDES Permit specifically includes mass limitations for 1) BOD_5, TSS, and ammonia since they are oxygen demanding substances, and 2) mercury since it is a bioaccumulative constituent and a total maximum daily load (TMDL) is pending. For those pollutant parameters for which effluent limitations are based on water quality objectives and criteria that are concentration-based (i.e., chlorine, diazinon, beta-endosulfan, chlorodibromomethane, dichlorobromomethane, endrin aldehyde, heptachlor, lead, aluminum, manganese, and nitrate), mass-based effluent limitations are not included in the proposed NPDES Permit.

CSPA and SARSAS Comment No. 4. Effluent Limitations for Chronic Toxicity

CSPA and SARSAS comment that the proposed NPDES Permit does not contain enforceable effluent limitations for chronic toxicity and does not comply with the Basin Plan, 40 Code of Federal Regulations part 122.44(d)(1)(i), and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries* (State Implementation Policy or SIP).

RESPONSE: The chronic toxicity issue was addressed in State Water Board Water Quality Order (WQO) 2008-0008 (City of Davis) adopted on 2 September 2008, and WQO 2003-0012 (Los Coyotes). With regard to the need for a numeric chronic toxicity effluent limit, WQO 2008-0008 states, "*We have already addressed this issue in a prior order and, once again, we conclude that a numeric effluent limitation for chronic toxicity is not appropriate at this time.*"

The proposed NPDES Permit requires compliance with a narrative effluent limitation for chronic toxicity. The proposed NPDES Permit includes a narrative chronic toxicity effluent limitation in section IV.A.1.e which reads, "There shall be no chronic toxicity in the effluent discharge." This is consistent with the SIP and the Los Coyotes Order. The State Board Orders, however, do not explain how to determine compliance with the limitation. Under the most literal interpretation, a result of even 1.1 chronic toxicity units (TUc) would be a violation of the narrative limitation. Determining compliance in this manner would not be appropriate, because to do so would essentially transform the narrative limitation into a numeric limitation of 1 TUc. This is impermissible, as the State Board has rejected the numeric approach in the Los Coyotes Order. This interpretation would also ignore dilution, making the limitation overly stringent. Disallowing dilution is inconsistent with effluent limitations for specific priority pollution. Further, whole effluent toxicity (WET) testing is imprecise by nature, and one sample is not necessarily indicative of chronic toxicity. For this reason, the SIP and the Los Coyotes Order rely on toxicity reduction/toxicity identification (TRE/TIE) requirements to ensure that a discharge does not cause or contribute to toxicity.

The proposed NPDES Permit also includes compliance determination language to implement the narrative limitation, in a manner suggested by both the City of Davis and Los Coyotes Orders. This language states, "*Compliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a shall constitute compliance with effluent limitations IV.A.1.e for chronic whole effluent toxicity*." (Provision VII.H.) This compliance determination language is consistent with the Los Coyotes and City of Davis Orders, which require narrative effluent limitations for chronic toxicity and also mandate numeric benchmarks for triggering accelerated monitoring, rigorous toxicity reduction evaluation/toxicity investigation evaluation conditions; and a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity.

The commenter states that, "The *Compliance Determination* nullifies the Effluent Limitation and makes toxic discharges unenforceable." To the contrary, Board staff believe that the accelerated testing and TRE/TIE requirements should be viewed as an integral part of the effluent limitation, assuring consistency with the SIP and Los Coyotes Order. In the Los Coyotes Order, the State Water Board noted that best management practices (BMPs) may substitute for numeric effluent limitations when developing numeric limitations is infeasible. The State Water Board then concluded

that numeric toxicity limitations are infeasible[1]. The TRE/TIE is the key to addressing chronic toxicity under the Los Coyotes approach. Relying on accelerated testing and the TRE/TIE to satisfy the narrative effluent limitation is a BMP-based approach and therefore consistent with the reasoning in the Los Coyotes Order.

The State Water Board required the narrative effluent limitation in addition to BMPs because "*NPDES permits must contain effluent limitations that will achieve compliance with water quality standards that have . . . . reasonable potential . . . .*"[2] The intent of the effluent limitation was to "*ensure that the requirements to perform a TRE/TIE and to eliminate toxicity are clear and enforceable*."[3] The compliance determination language is consistent with the State Water Board's purpose for requiring the effluent limitation.

During the TRE/TIE process, the Discharger is subject to the acute toxicity effluent limitation and a chronic toxicity receiving water limitation. (Permit, section V.A.16.) Taken together, these provisions require the Discharger to promptly address any newly-discovered chronic toxicity, or the Discharger will be in violation of the permit. This is consistent with the State Water Board's permitting approach for chronic toxicity.

CSPA and SARSAS Comment No. 5. Title 27 Requirements

CSPA and SARSAS comment that the proposed NPDES Permit fails to implement the requirements of the California Code of Regulations, title 27 ("Title 27") where the wastewater treatment and disposal operations have been previously shown to have degraded groundwater quality, contrary to the requirements of the Basin Plan. CSPA and SARSAS comment that the Discharger and the proposed NPDES Permit have failed to implement the State Water Board's Antidegradation Policy, which requires that best practicable treatment and control (BPTC) of the wastewater discharge be provided.

RESPONSE: Central Valley Water Board staff does not concur that the discharge does not qualify for an exemption from Title 27 requirements. As discussed in section III.E.1 of the Fact Sheet (Attachment F), discharges of wastewater to land, including, but not limited to, evaporation ponds or percolation ponds, are exempt from the requirements of Title 27. The sewage exemption at Title 27 section 20090(a) unconditionally exempts treatment or storage facilities associated with municipal wastewater treatment plants. The Facility contains one equalization pond which provides aeration (Pond 1A) and four equalization ponds (Ponds 1B, 2, 3, and 4). Pond 1A is lined with plastic and provides pre-aeration of the wastewater before being directed to the secondary treatment facilities, and therefore, is a necessary part of the Facility's wastewater treatment system. Thus, Pond 1A is exempt from

[1] Order No. WQ 2003-0012, pp. 9-10.
[2] *Id.*, p. 9.
[3] *Id.,* p. 10.

the requirements of Title 27, pursuant to Title 27 section 20090(a). During wet weather periods the flow equalization and storage capacity of Pond 1A is inadequate, and Ponds 1B, 2, 3, and 4 provide additional storage, and therefore, are a necessary part of the Facility's wastewater treatment system. These ponds were constructed with 6-inch bentonite clay liners. Thus, Ponds 1B, 2, 3, and 4 are also exempt from the requirements of Title 27, pursuant to Title 27 section 20090(a).

Although satisfaction of antidegradation requirements is not a precondition for exemption from the requirements of Title 27, Board Orders must demonstrate compliance with all antidegradation requirements. As described in the Fact Sheet (Attachment F), Order R5-2005-0030 established quarterly groundwater monitoring and a requirement to perform a BPTC evaluation and established the groundwater limitations that are carried forth in the current permit.

To comply with the BPTC requirements, the Discharger lined Pond 1A in 2007 with a plastic liner and implemented procedures to empty the remaining ponds as soon as practicable after storm flows subside. The Discharger also submitted a *Background Evaluation Report, City of Auburn Wastewater Treatment Plant, Auburn, California* (BSK Associates), dated 20 May 2010, to report on the natural background quality and compare measured concentrations in downgradient monitoring wells to assess impacts from the equalization ponds. Based on the statistical evaluation in the report, only iron exceeds the applicable water quality objective (i.e., the Secondary MCL) and the background concentration in the downgradient wells. Iron also exceeded the Secondary MCL in the upgradient well.

Central Valley Water Board staff is concerned with the high concentrations of iron in both the upgradient and downgradient monitoring wells and the possibility that the natural background quality is acidic, which naturally results in higher iron concentrations. Therefore, restricting discharges of iron to groundwater may not reduce the impact to groundwater and groundwater limitations for iron will not be established at this time. The proposed NPDES Permit requires the Discharger to conduct a BPTC study to further evaluate natural background quality, assess how discharges from the ponds are impacting groundwater, and develop a work plan and schedule for providing BPTC as required by Resolution 68-16 for iron in the groundwater underlying the equalization ponds. BPTC may include, but is not limited to, lining of the equalization ponds.

Central Valley Water Board staff does not concur with the following requested revision of the groundwater limitation:

> "*Release of waste constituents from any storage, treatment, or disposal component associated with the Facility shall not, in combination with other sources of the waste constituents, cause groundwater within influence of the Facility to contain waste constituents in concentrations in excess of natural background quality or that listed below, whichever is ~~greater~~less:"*

State Water Board Resolution No. 68-16 does not require discharges to groundwater to improve natural background water quality. Where natural background water quality is less than water quality objectives, some degradation is allowed when compared to background water quality, as long as water quality objectives are not exceeded. Order R5-2005-0030, which established the groundwater limitations that are maintained in the current permit, found that this limited degradation was consistent with the maximum benefit to the people of the State. Where natural background water quality is greater than applicable water quality objectives, the discharge cannot cause degradation beyond levels that are naturally occurring. Therefore, the groundwater limitation will not be revised.

CSPA and SARSAS Comment No. 6. Hardness-based Metals

CSPA and SARSAS comment that the Central Valley Water Board establishes effluent limitations for metals based on the hardness of the effluent and/or the downstream water and rarely use the ambient upstream receiving water hardness as required by the CTR and 40 Code of Federal Regulations part 131.38(c)(4).

RESPONSE: As explained in detail in IV.C.2.c of the Fact Sheet (Attachment F), the reasonable worst-case ambient hardness was used to calculate the CTR hardness dependent metals criteria. The downstream ambient hardness is appropriate and allowed by the SIP and CTR.

The criteria for hardness-dependent metals must be based on the reasonable worst-case ambient hardness in accordance with the SIP[1], the CTR[2] and State Water Board Order WQO 2008-0008 (Davis Order). The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, section 1.2; 40 C.F.R. § 131.38(c)(4), Table 4, note 4.) The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions. Therefore, the State Water Board concluded that where reliable, representative data are available, the hardness value for calculating criteria can be the downstream receiving water hardness, after mixing with the effluent (Davis Order, p. 11).

In the Davis Order, the State Water Board points out that the requirements for selecting the appropriate hardness for calculating the CTR metals criteria is conflicting in the CTR and the SIP. The CTR requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.
[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.

zones (e.g., 1Q10 and 7Q10 receiving water low flows); whereas, the SIP's steady-state method requires the selection of critical or worst-case parameters. These can be in conflict for hardness, because often in receiving waters the critical worst-case hardness conditions do not coincide with the design low flow conditions. The lowest hardness conditions typically occur during high river flows, due to the low hardness in surface runoff from precipitation or snowmelt[1]. The State Water Board concludes that, "*Thus, the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which the particular hardness exists*." (*Id.*, p.10.).

In the proposed NPDES Permit, the reasonable worst-case estimated downstream ambient hardness was used for calculating the CTR criteria. As shown in Tables F-5, F-6, and F-7, the calculated CTR criteria are protective under all discharge and flow conditions assuming worst-case conditions for upstream ambient hardness and metals concentrations.

CSPA and SARSAS contend that the upstream ambient receiving water hardness must be used to calculate the CTR metals criteria. The approach used in the proposed NPDES Permit establishes the hardness based on the downstream mixed hardness. This is appropriate, because the effluent includes metals and hardness. It is impossible to discharge one without the other. Not considering the hardness of the effluent can result in toxicity as the discharge mixes with the receiving water. Using the minimum observed upstream receiving water hardness in this case would result in more stringent criteria, but CSPA and SARSAS do not discuss what would happen in cases where the effluent hardness is lower than the upstream receiving water hardness. Following CSPA and SARSAS's advice, effluent limitations for metals would be set where the effluent is toxic and would need to be mixed with the higher hardness receiving water to meet the CTR criteria. Central Valley Water Board staff doubts CSPA and SARSAS would condone such a discharge.

CSPA and SARSAS quote the CTR with regards to a concern when an effluent raises the hardness of the receiving watering. It states, "*A hardness equation is most accurate when the relationship between hardness and the other important inorganic constituents, notably alkalinity and pH, are nearly identical in all of the dilution waters used in the toxicity tests and in the surface waters to which the equation is to be applied. If an effluent raises hardness but not alkalinity and/or pH, using the lower hardness of the downstream hardness might provide a lower level of protection than intended by the 1985 guidelines.*" (Federal Register, Volume 65, No. 97/Thursday, May 18th 2000 (31692)) CSPA and SARSAS assert this means that the upstream receiving water hardness must be used in the CTR equations. Effluents from municipal wastewater treatment plants have similar characteristics to

[1] This has been documented for the San Joaquin River near the Manteca discharge. The lowest receiving water hardness occurs during flood flows when there is massive dilution.

the receiving water with regard to the relationships between hardness, alkalinity, and pH. Municipal wastewater treatment plants must maintain neutral pH and sufficient alkalinity for the biological processes to work properly, especially for nitrification. Therefore, the condition that the CTR warns against is not present in municipal wastewater treatment plant effluent. This language in the CTR confirms that "ambient" may be defined as downstream of the discharge after mixing with the effluent, thus, the use of downstream mixed hardness is appropriate under these conditions as the State Water Board found in the Davis Order.

CSPA and SARSAS take the State Water Board's quotes out of context in the Davis Order (WQO 2008-0008). For the City of Davis NPDES permit, the upstream receiving water hardness was used. However, in the City of Davis NPDES permit the use of the lowest hardness during low flows was used, rather than the lowest hardness during all flow conditions. The State Water Board found that in order to account for acute conditions that may occur even during high flows, the Central Valley Water Board must consider the hardness of the receiving water during all flow conditions, high and low. CSPA and SARSAS take this statement as a requirement to only use the upstream receiving water hardness. However, the State Water Board actually concluded that where reliable, representative data are available, the hardness value for calculating criteria can be the downstream receiving water hardness, after mixing with the effluent (Davis Order, p. 11).

CSPA and SARSAS contend that since a lower effluent limit would be required using the minimum observed upstream ambient hardness to calculate the CTR criteria, that this means a mixing zone and dilution is required. This is not accurate. Although a lower effluent limit can be calculated, dilution is not needed. The criteria are dependent on hardness, so the criteria changes as the hardness changes downstream. A mixing zone is a zone near the point of discharge where criteria are not met. A mixing zone is needed when the effluent exceeds criteria and requires mixing and dilution with the receiving water before the criteria are met. As shown in Tables F-5, F-6, and F-7 of the Fact Sheet (Attachment F), considering the known conditions and using worst-case assumptions, the effluent does not exceed the criteria and any mixture of effluent and receiving water does not exceed the criteria. A mixing zone is therefore not necessary in this situation.

CSPA and SARSAS further provide a discussion of the biological opinion from the U.S. Fish and Wildlife Service (USFS) and National Marine Fisheries Service (NMFS) on the promulgation of the CTR. Because the biological opinion was submitted on the proposed CTR rulemaking, USEPA would have considered the specific comment in the development of the final rulemaking of the CTR. Therefore, these comments by CSPA and SARSAS are directed at the CTR, not the proposed NPDES Permit, which must comply with the final CTR and SIP. In addition, the biological option is not in the record for this permitting action. Central Valley Water Board staff properly applied the SIP and CTR when establishing water quality-based effluent limitations (WQBELs) for the CTR metals with hardness-dependent criteria.

CSPA and SARSAS Comment No. 7. Alteration of the Character of the Discharge

CSPA and SARSAS comment that the Discharger altered the character of the wastewater discharge, did not apply for a revision of the NPDES Permit to accommodate the change, and did not undertake an assessment of the antidegradation policy requirements for the addition of substances that alter the discharge hardness resulting in the lowering of water quality.

RESPONSE: Central Valley Water Board staff does not concur that an antidegradation finding is necessary for the addition of lime to the wastewater treatment system. Order R5-2005-0030 and the proposed NPDES Permit contain effluent limitations for nitrite and nitrate plus nitrite with which the Discharger is unable to comply. CDO R5-2008-0010 and the proposed CDO include a time schedule for the Discharger to come into compliance with the final effluent limitations for nitrite and nitrate plus nitrite by 16 March 2011. As discussed in the proposed NPDES Permit, the Discharger previously added lime manually on an as-needed basis to improve the performance of the denitrification system. In order to assure adequate denitrification and continuous compliance with effluent limitations for nitrite and nitrite plus nitrate, the Discharger installed an automatic lime feed system in March 2010. Alkalinity addition such as lime, in the absence of high influent alkalinity, is necessary to counteract alkalinity demand in the ammonia conversion process. The proposed NPDES Permit does not allow for an increase in discharges of nitrite or nitrate plus nitrite, and thus does not violate antidegradation requirements for these pollutants.

CSPA and SARSAS raise the concern that adding lime to the treatment system could also raise effluent salinity levels, causing degradation. Central Valley Water Board staff share concerns regarding salinity, and have included an effluent limitation for electrical conductivity which is protective of water quality, as well as a requirement to develop a salinity evaluation and minimization plan to ensure that the Discharger will continue to control the discharge of salinity. The proposed NPDES Permit does not allow for an increase in discharges of salinity, and thus does not violate antidegradation requirements for salinity.

The Central Valley Water Board specifies levels of pollutants that dischargers must achieve in order to protect water quality, but does not dictate how dischargers must treat the effluent to achieve compliance. As described above, the proposed NPDES Permit contains effluent limitations for nitrite, nitrate plus nitrite, and electrical conductivity to protect the beneficial uses of the receiving water.

CSPA and SARSAS Comment No. 8. Protection of Municipal and Domestic Supply (MUN) Beneficial Use

CSPA and SARSAS comment that the proposed NPDES Permit contains absurd and technically unsound statements regarding pathogen levels, disinfection, and the drinking

water beneficial use of the receiving water, indicating that the beneficial use is not protected contrary to the CWC and federal regulations.

RESPONSE: Central Valley Water Board staff does not concur. The proposed NPDES Permit is fully protective of the MUN beneficial use of the receiving water. CSPA and SARSAS comment that for pathogens, the most sensitive beneficial use is MUN, due to the direct ingestion of the water, and the proposed NPDES Permit only discusses protection of the contact recreation (REC-1) and agricultural water supply (AGR) beneficial uses with respect to pathogens.

There are no numeric water quality objectives applicable to the receiving water for pathogens for the protection of MUN. The only water quality objective that applies to surface waters is the bacteria objective in the Basin Plan, which states, "*In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.*" The proposed NPDES Permit includes effluent limitations for pathogens based on recommendations by DPH for protection of REC-1 and AGR. These effluent limitations are also fully protective of the MUN use.

In 1987, the DPH issued the "Uniform Guidelines for the Disinfection of Wastewater" (Uniform Guidelines), which included recommendations to the Central Water Board regarding the appropriate level of disinfection for wastewater discharges to surface waters. DPH provided a letter dated 1 July 2003 that included clarification of the recommendations. The letter states, "*A filtered and disinfected effluent should be required in situations where critical beneficial uses (i.e. food crop irrigation or body contact recreation) are made of the receiving waters unless a 20:1 dilution ratio (DR) is available. In these circumstances, a secondary, 23 MPN discharge is acceptable.*" DPH considers such discharges to be essentially pathogen-free. (Letter from David P. Spath to Gary Carlton (16 September 1999) p. 3 and Enclosure to same, p. 6.) The proposed NPDES Permit is consistent with these recommendations, considering site-specific factors. Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board has found that it is appropriate to apply an equivalent level of treatment to that required by DPH's reclamation criteria when there is less than 20:1 dilution (receiving water:effluent) because the receiving water may be used for AGR and/or for REC-1 purposes.

In site-specific situations[1] where a discharge is occurring to a stream with a nearby water intake used as a domestic water supply without treatment, DPH has recommended the same Title 22 tertiary treatment requirements for the protection of MUN, as well as protecting REC-1 and AGR. However, DPH has recommended a

[1] For example, see Waste Discharge Requirements Order No. R5-2007-0133 (NPDES No. CA0079391) for the City of Jackson Wastewater Treatment Plant, Amador County.

20:1 dilution ratio in addition to the Title 22 tertiary treatment requirement to protect the domestic water supply only where there are existing users of raw water near the treatment plant outfall. In this case, there are no such known uses in the vicinity of the discharge. A review of the State Water Board's Electronic Water Rights Information Management System (e-WRIMS) indicates that there are no water rights for domestic use on Auburn Ravine. Therefore, tertiary treatment plus 20:1 dilution is not necessary to protect the MUN, REC-1 or AGR uses.

The chemical constituents narrative objective states, "*Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses*." The narrative toxicity objective states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." When necessary, the Central Valley Water Board adopts numeric effluent limitations to implement these objectives. The *Policy for Application of Water Quality Objectives* states, "*To evaluate compliance with the narrative water quality objectives, the Regional Water Board considers, on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., State Water Board, California Department of Health Services, California Office of Environmental Health Hazard Assessment, California Department of Toxic Substances Control, University of California Cooperative Extension, California Department of Fish and Game, USEPA, U.S. Food and Drug Administration, National Academy of Sciences, U.S. Fish and Wildlife Service, Food and Agricultural Organization of the United Nations). In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective*."

In this case, however, there are no known users of raw water (i.e., existing uses of untreated domestic water) in the vicinity of the discharge, and there is no direct evidence of beneficial use impacts. For public water supplies, wastewater discharges do not require drinking water treatment plants to add any additional treatment, since State and federal law require residual chlorine and/or UV disinfection of surface water. (*See, e.g.,* Surface Water Treatment Rule, 40 C.F.R. § 141, subpart H; Cal. Code Regs., title 22, section 64447.) Wastewater discharges do not interfere with such treatment processes. In this case, moreover, there are no public drinking water intakes near the treatment plant outfall. Thus, a requirement for Title 22 tertiary in addition to the 20:1 flow ratio is not required.

The State Water Board has already determined that tertiary treatment is not necessary when dilution exceeds 20:1. (WQO 2004-0010 (City of Woodland).) The City of Woodland order addressed REC-1 and not MUN, which was not an existing use of the receiving water. However, the State Water Board has twice concluded that it is appropriate for the Central Valley Water Board to rely on DPH guidance in

determining the level of treatment necessary to protect human health. (*Id.,* p. 11; WQO 2002-0016 (City of Turlock), p. 11.)

In summary, there are no numeric water quality objectives for pathogens for the protection of MUN. Therefore, the Central Valley Water Board, when developing NPDES permits, implements recommendations by DPH for the appropriate disinfection requirements for the protection of MUN, as well as REC-1 and AGR. The disinfection requirements in the proposed NPDES Permit implement the DPH recommendations and are fully protective of the beneficial uses of the receiving water.

CSPA and SARSAS comment that the proposed NPDES Permit violates the Basin Plan's narrative toxicity objective, and thus does not protect beneficial uses, because it does not address endocrine disruptors, pharmaceuticals, and personal care products. Central Valley Water Board staff share concerns regarding emerging constituents of concern. The issues associated with emerging constituents of concern are presently the subject of a number of studies; however, specific water quality objectives have not been established at this time. The proposed NPDES Permit is protective of all applicable water quality objectives and may be reopened to incorporate additional effluent limitations upon establishment of applicable water quality objectives for specific emerging constituents of concern.

CSPA and SARSAS comment that the proposed NPDES Permit should require that the Discharger develop a workplan to eliminate the discharge to surface water. Central Valley Water Board staff does not concur. Over the last permit term, the Discharger has voluntarily put forth significant efforts to discontinue the discharge to Auburn Ravine and participate in a regionalization project with the City of Lincoln Wastewater Treatment and Reclamation Facility. Although the Discharger has chosen to pursue treatment plant upgrades to comply with existing and proposed discharge requirements, the Discharger continues to pursue regionalization and discontinuation of the surface water discharge to Auburn Ravine. Based on the Discharger's good faith efforts, the proposed NPDES Permit will not require further workplan requirements.

CSPA and SARSAS Comment No. 9. Water Quality Criteria for Copper

CSPA and SARSAS comment that the proposed NPDES Permit fails to utilize the latest USEPA-recommended criteria for copper and instead utilizes an outdated water quality standard and WER in developing effluent limitations for copper contrary to 40 Code of Federal Regulations part 122.44(d), which requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

RESPONSE: Central Valley Water Board staff does not concur. Copper is a CTR priority pollutant. The CTR contains water quality criteria for copper based on hardness, and also contains conversion factors and WERs to adjust the copper

criteria. For pollutants listed in the CTR, such as copper, the SIP establishes a step-by-step procedure for determining reasonable potential and developing WQBELs. Central Valley Water Board staff properly applied the CTR and SIP when establishing the WQBELs for copper in the proposed NPDES Permit.

As CSPA and SARSAS commented, USEPA has also promulgated an objective for copper based on the Biotic Ligand Model (BLM) (*Aquatic Life Ambient Freshwater Quality Criteria—Copper 2007 Revision*). The BLM cannot be used in developing WQBELs in NPDES permits; a Basin Plan amendment must be completed, or USEPA must change the CTR. CSPA and SARSAS provide a discussion of the biological opinion from USFS and NMFS on the promulgation of the CTR. But because the biological opinion was submitted on the proposed CTR rulemaking, USEPA would have considered the specific comment in the development of the final rulemaking of the CTR. Therefore, these comments by CSPA and SARSAS are directed at the CTR, not the proposed NPDES Permit, which must comply with the final CTR and SIP.

CSPA and SARSAS Comment No. 10. Effluent Limitations for Bis (2-ethylhexyl) Phthalate

CSPA and SARSAS comment that the proposed NPDES Permit fails to contain effluent limitations for bis (2-ethylhexyl) phthalate despite clear reasonable potential to exceed water quality standards in violation of 40 Code of Federal Regulations part 122.44.

RESPONSE: Central Valley Water Board staff does not concur. As discussed in the Fact Sheet (Attachment F, section IV.C.3.b.i), there is insufficient information to conduct a reasonable potential analysis (RPA) due to uncertainty in the sample results. Bis (2-ethylhexyl) phthalate samples can be easily contaminated when plastic containers are used or by the use of rubber gloves. Bis (2-ethylhexyl) phthalate was detected, but not quantified, in one of three samples at an estimated concentration of 4.6 µg/L. Since bis (2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of the detected bis (2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment, it is uncertain whether reasonable potential actually exists and therefore effluent limitations for bis (2-ethylhexyl) phthalate are not being established at this time. Instead of limitations, additional monitoring has been established for bis (2-ethylhexyl) phthalate. The Order requires the Discharger to take appropriate steps to assure that sampling containers, sampling apparatuses, and analytical equipment are not sources of the detected contaminant. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then the proposed NPDES Permit may be reopened and modified by adding an appropriate effluent limitation.

CSPA and SARSAS Comment No. 11. Anti-backsliding

CSPA and SARSAS comment that the proposed NPDES Permit removes effluent limitations for numerous constituents and is less stringent than the existing permit contrary to the anti-backsliding requirements of the CWA and 40 Code of Federal Regulations part 122.44(l)(1).

RESPONSE: The RPA was based on monitoring data collected from September 2006 and August 2009, which constitutes monitoring data that was not available at the time Order R5-2005-0030 was issued. Based on this updated monitoring data, chloroform, copper, methyl tertiary butyl ether, methylene blue active substances, nickel, oil and grease, persistent chlorinated hydrocarbon pesticides (except beta-endosulfan, endrin aldehyde, and heptachlor), settleable solids, silver, and zinc do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Therefore, relaxation of effluent limitations is allowed under CWA section 402(o)(2)(B)(i), which allows for relaxation where information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. CWA section 303(d)(4) allows for less stringent limitations in waters attaining water quality standards if the relaxation is consistent with antidegradation requirements. The discharge does not have the reasonable potential to cause or contribute to an exceedance of water quality standards for these parameters in the receiving water and all beneficial uses will be maintained. Discontinuing effluent limitations for these parameters is consistent with the antidegradation provisions of 40 Code of Federal Regulations part 131.12 and State Water Board Resolution 68-16. Any impact on existing water quality will be insignificant. Therefore, relaxation of effluent limitations is allowed under CWA section 303(d)(4).

CSPA and SARSAS Comment No. 12. Antidegradation

CSPA and SARSAS comment that the proposed NPDES Permit contains an inadequate antidegradation analysis that does not address the removal of effluent limitations contained in the existing permit or the allowance to degrade groundwater quality, which does not comply with CWA section 101(a), 40 Code of Federal Regulations part 131.12, the State Water Board Resolution 68-16, or CWC sections 13146 or 13247.

RESPONSE: Central Valley Water Board Staff does not concur. CWC sections 13146 and 13247 require other State agencies to comply with water quality control plans when those agencies are discharging waste. Although these sections are not relevant here, Central Valley Water Board staff concurs that the Central Valley Water Board must comply with State and federal antidegradation policies when issuing NPDES permits. However, the proposed NPDES Permit complies with those policies.

The proposed NPDES Permit is for an existing surface water discharge with no increase in capacity or permitted flow. State Water Board and USEPA guidelines do not require a new antidegradation analysis under these circumstances. (Memo to the Regional Board Executive Officers from William Attwater (10/7/87), p.5; APU 90-004, pp. 2-3; EPA Water Quality Handbook 2d, § 4.5.) Nevertheless, the proposed NPDES Permit evaluates the impact to waters of the State on a pollutant-by-pollutant basis and demonstrates that such discharges will not unreasonably degrade the waters of the State. No antidegradation analysis is required when the Central Valley Water Board reasonably concludes that degradation will not occur. (Attwater memo p. 3.)

However, to address the antidegradation issue raised, Section IV.D.4.a of the Fact Sheet (Titled "Satisfaction of Antidegradation Policy, Surface Water) has been modified to include the following antidegradation language:

"This Order removes existing effluent limitations for constituent in which new monitoring data demonstrates that the effluent does not cause or contribute to an exceedance to a water quality criteria or objective. The Regional Water Board finds that the additional degradation associated with the removal of the corresponding effluent limitations does not reasonably affect the present and anticipated beneficial uses of the receiving waters, and allowing such degradation is to the maximum social and economical benefit of the people of the State."

See response to CSPA and SARSAS Comment No. 5 for a discussion of antidegradation requirements for discharges to groundwater from the equalization/storage ponds.

CSPA and SARSAS Comment No. 13. Additive Toxicity

CSPA and SARSAS comment that the proposed NPDES Permit fails to implement the requirements of the Basin Plan's *Implementation Plan for Application of Water Quality Objectives* with regard to additive toxicity.

RESPONSE: Central Valley Water Board staff acknowledges the potential impact to aquatic life and human health as a result of additive toxicity. This impact would particularly be expected when discharges of the pollutants of concern (e.g., all carcinogens) are discharged at the same time and at levels that exceed applicable water quality objectives during critical low flow times. An accurate evaluation of additivity would therefore require extensive data collection and analysis. Alternatively, the Central Valley Water Board uses several mechanisms within an Order to protect against toxic and carcinogenic effects. For this Discharger, the Central Valley Water Board establishes WQBELs using conservative assumptions (e.g., use of critical low flows) designed to be protective of receiving water quality

(based on applicable water quality objectives established to protect against acute and chronic toxicity and human health carcinogenicity). In addition, the Central Valley Water Board requires WET testing designed specifically to determine whether the combination of pollutants contained in a discharge result in toxic effects.

CSPA and SARSAS Comment No. 14. Statistical Multipliers

CSPA and SARSAS comment that the proposed NPDES Permit contains an inadequate RPA by using incorrect statistical multipliers as required by 40 Code of Federal Regulations part 122.44(d)(1)(ii).

RESPONSE: Until adoption of the SIP by the State Water Board, USEPA's *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (TSD) was the normal protocol followed for permit development for all constituents. The SIP is required only for CTR and National Toxics Rule (NTR) constituents and prescribes a different protocol when conducting an RPA, but is identical when developing WQBELs. For some time after SIP adoption, SIP protocols were used for CTR/NTR constituents, and TSD protocols were used for non-CTR/NTR constituents. While neither protocol is necessarily better or worse in every case, using both protocols in the same permit has led to confusion by dischargers and the public, and greater complexity in writing permits. Currently there is no State Water Board or Central Valley Water Board policy that establishes a recommended or required approach to conduct an RPA or establish WQBELs for non-CTR/NTR constituents. However, the State Water Board has held that the Central Valley Water Board may use the SIP as guidance for water quality-based toxics control. The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency*." Therefore, for consistency in the development of NPDES permits, the Central Valley Water Board has begun to use the RPA procedures from the SIP to evaluate reasonable potential for both CTR/NTR and non-CTR/NTR constituents. Consistent with the RPA procedure from the SIP, the RPA for the proposed permit was not performed using statistical multipliers to determine if effluent limitations are needed.

CSPA and SARSAS Comment No. 15. Effluent Limitations for Chloroform

CSPA and SARSAS comment that the proposed NPDES Permit fails to include an effluent limitation for chloroform as required by 40 Code of Federal Regulations part 122.44 and should not be adopted in accordance with CWC section 13377.

RESPONSE: See response to Discharger Comment No. 3.